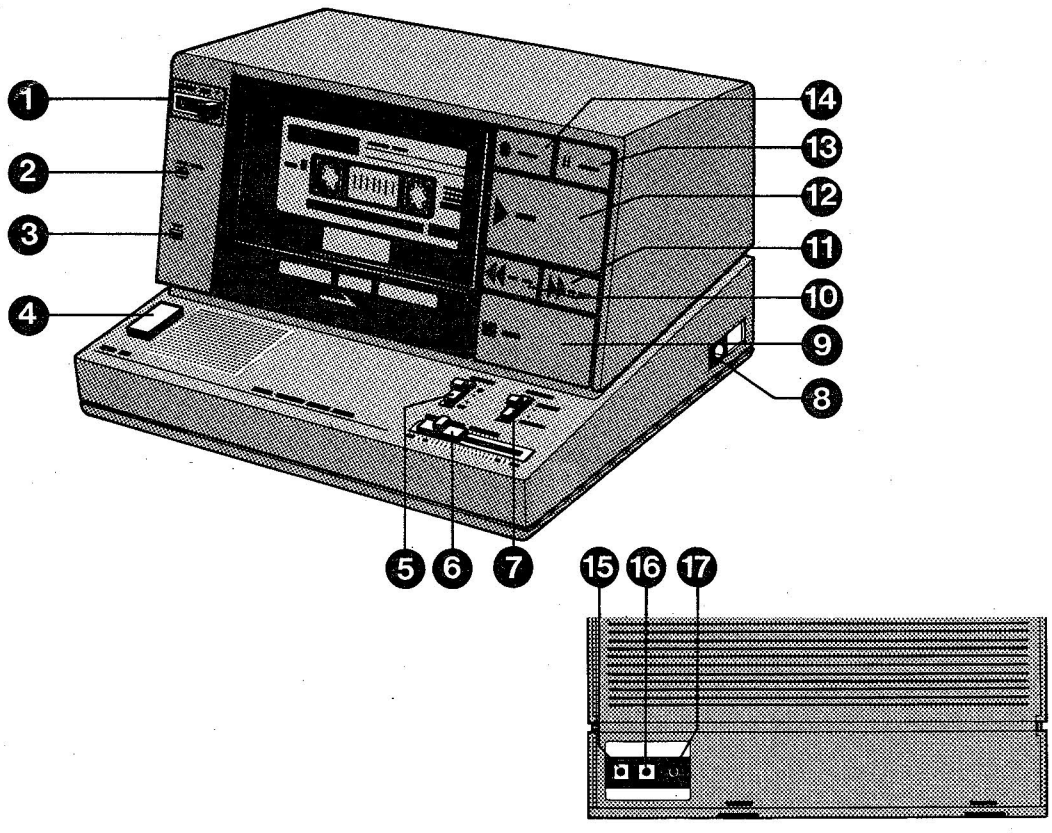
Service
Service
Service

For repair information of the cassette mechanism see Service Manual of "Recorders tape deck RU-1" and "Recorders tape deck RU-3".

Service Manual



37 855 A12

Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification

4822 725 20601

Printed in The Netherlands

©Copyright reserved

PHILIPS Published by Service Consumer Electronics

SPECIFICATIONS

⊣⊢	: 9 V 6× R14
Frequency response	: 500-6300 Hz*
Tape speed	: 4.76 cm/sec ± 2%
Wow and Flutter	: ⩽ 0,35%
Input BU103	: 0,5 mV 2 kΩ
Output BU102	: 7 V_{pp} 50 Ω
S/N ratio	: 26 dB (full rectangular output signal at 1000 Hz)

* Reliable up to 2400 Baud (MSX standard)
Input signal of 0,5 mV should cause full rectangular output signal from 500-6300 Hz.

CONNECTIONS AND CONTROLS

1	Tape counter		10	Rewind	
2	Save led	D105	11	Fast Forward	
3	Data Flow led	D106	12	Play (load start)	
4	Eject		13	Pause	
5	Monitor, on/off	SK102	14	Record (save)	
6	Output signal control	R128	15	Line out	BU102
7	Phase, normal/reverse	SK103	16	Line in	BU103
8	Ext. D.C. supply	BU101	17	Remote	BU104
9	Stop				

BU101	G 1	C101	H 4	C105	E 5	C109	B10	C113	C 2	C116	F11	D103	H 2	D107	G 3	R102	C 2	R105	C 5	R108	E 5	R111	C 7	R115	B 8	R118	B10	R123	C11	R126	D 5	R130	G 3	SK101	D 4	TS102	B10
BU103	C 1	C102	H 5	C107	D 5	C110	C10	C114	C12	D101	F11	D105	E11	K1	F 3	R103	G 4	R106	D 5	R109	E 5	R112	C 7	R116	C 8	R121	B11	R124	C13	R128	C11	SK101	D 5	SK101	D 3		
BU104	G 2	C103	C 4	C108	C 6	C112	C13	C115	E 8	D102	B10	D106	A11	R101	C 2	R104	H 4	R107	D 5	R110	E11	R113	E 7	R117	C 9	R122	C10	R125	C13	R129	E 7	SK101	C 4	SK101	E 3		

D6450

1/2I C101 TDA2320

1/2I C101 TDA2320

1/2IC102 TDA2320

1/2IC102 TDA2320

DATA LED

* SERVICE SOLUTION FOR TTL (5V) INPUT VOLTAGE

LINE IN 0.5mV/2k

BU103

R101 1k

R102 2k2

C113 10n

1N4148

1N4148

SK101 REC

C103 10µ

R105 100k

C108 22n

R111 22k

R112 1M

R106 120k

C107 1n2

R126 3M3

R107 220k

R108 1k

R109 100k

C105 10µ

SK101 REC

R127 18k

C104 2n2

R115 10k

SK102 MON

C109 22n

R118 4k7

D102

TS102 BC548

R121 220

D106

R116 22k

R117 22k

SK103 PHASE

C110 22n

R122 47k

R128 50k

R123 1k

C114 100p

C112 47µ

R125 56

R124 1k

LINE OUT 0-7Vpp / 50 Ω

BU102

4.40V 4.40V

4.35V 4.35V

4.40V 8V

R129 39k

R113 15k

C115 1µ

K1

REC. LED

D105

R110 150

K2

D101

C116 10n

SK101

BU104

BU101

SK2

MUTE

SK1

R130 10

D107 1N4001

D103 1N4001

6X R14 9V

M1

C101 1000µ

R103 1k

R104 1k

C102 100µ

SK101 IN POS PLAYBACK

RECORDING

SK102 IN POS MONITOR OFF

MONITOR ON

SK103 IN POS PHASE REVERSE

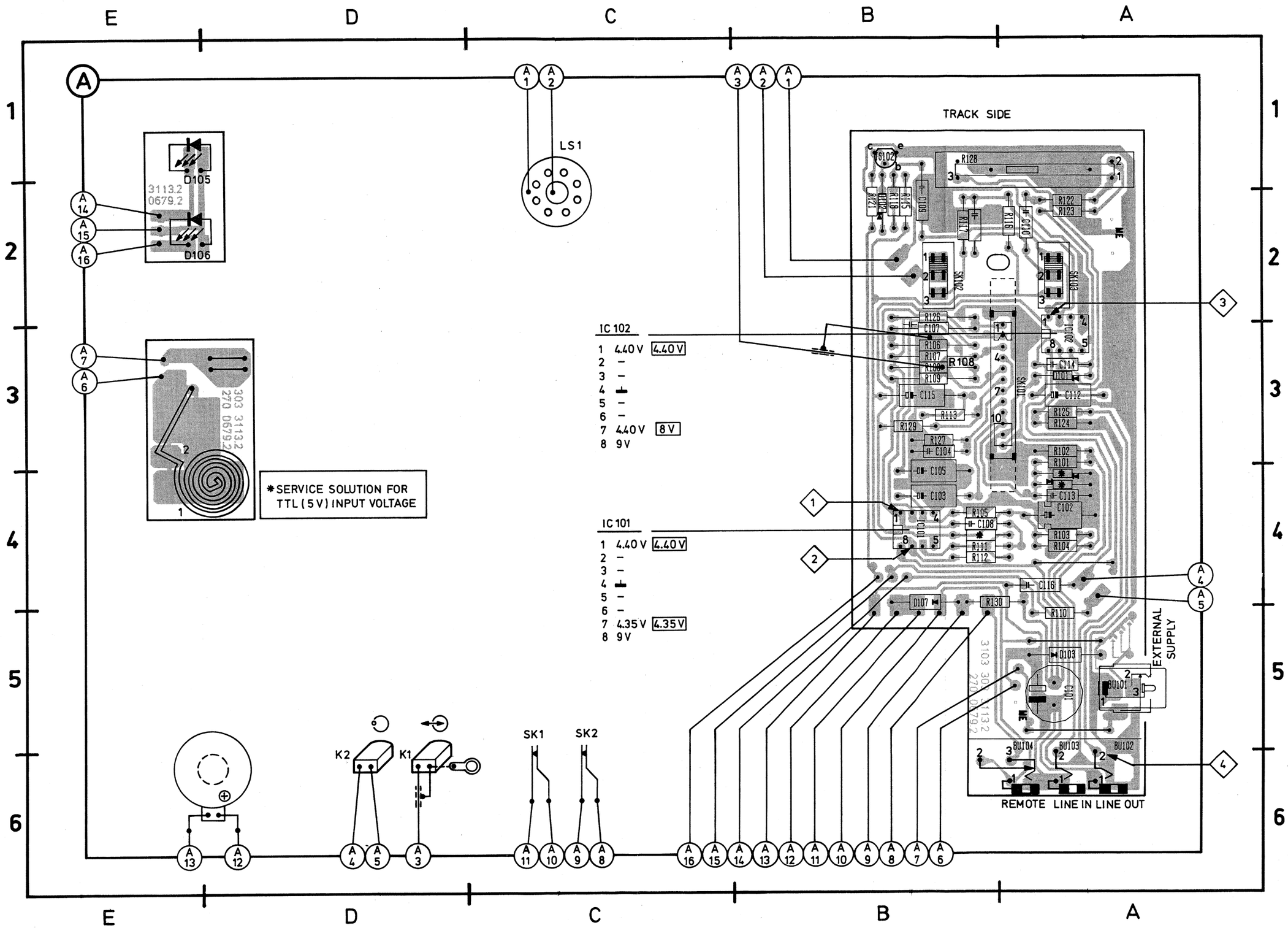
PHASE NORMAL

ALL RESISTORS UNLESS OTHERWISE STATED

V VOLTAGE MEASURED IN POS. RECORD

E. V. M. VOLTAGE MEASURED IN POS. PLAY UNLESS OTHERWISE STATED

PRS. 00271 T10



37 330 C7

CS 101 500

RECORDING (SAVE) (SBC420)
0.5mV / 1kHz ~ BU103

PLAY (LOAD) THE RECORDING MADE

MEASURED ON ① 0.3Vpp Veff ≈ 100 mV

MEASURED ON ① 0,56Vpp

MEASURED ON ② ③ 7Vpp

MEASURED ON ② ③ 6,6Vpp

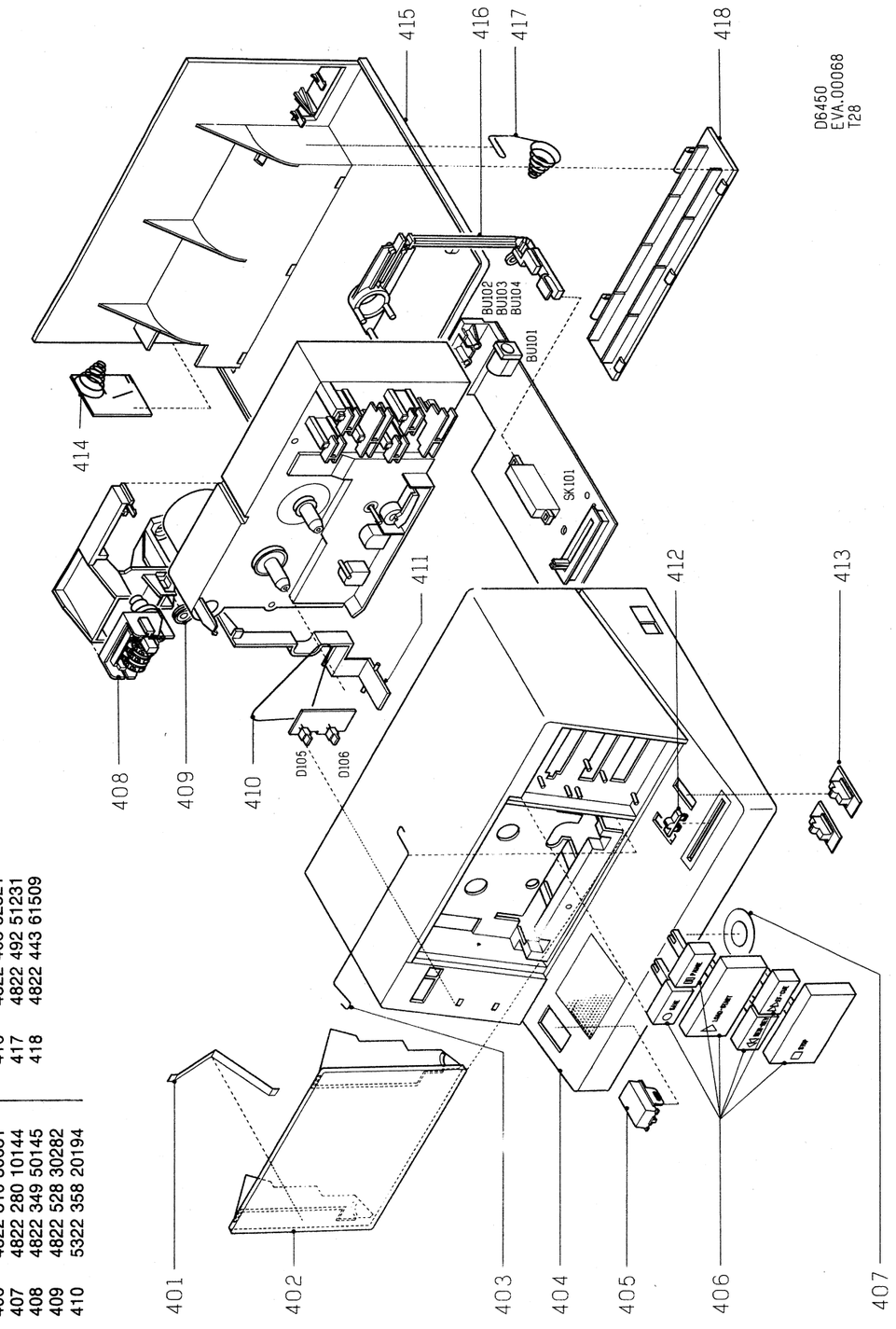
MEASURED ON ④ 6.6Vpp

37 632 B12

Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with
Tape speed	SBC420 3150 Hz	Load		BU104	Wow and* flutter meter	R in motor (via hole)
Azimuth R/W head	SBC420 3150 Hz	Load		BU104	mV meter max output	Left screw R/W head
Frequency response	SBC420 blank side (according to IECI)	Load + save Load (play) the recording made	BU103 0,5 mV 500-6300 Hz	BU104	Oscilloscope 0-7 Vpp ** rectangular form	

*The maximum permissible speed deviation is 2%. Moreover, the wow and flutter value can be read. This value should not exceed 0,3%.

**Depends on position of the ouput signal control.



411	4822 403 52319	
412	4822 411 61112	
413	4822 411 61113	
414	4822 492 63001	
415	4822 443 50592	
416	4822 403 52321	
417	4822 492 51231	
418	4822 443 61509	
401	4822 492 63192	
402	4822 443 61501	
403	4822 492 41245	
404	4822 443 10081	
405	4822 410 24086	
406	4822 310 30631	
407	4822 280 10144	
408	4822 349 50145	
409	4822 528 30282	
410	5322 358 20194	

-IC-		
IC101	LS204CB	4822 209 81432
IC102	LS204CB	4822 209 81432

-TS-		
TS102	BC548	4822 130 40938

-D-		
D101	1N4148	4822 130 30621
D102	1N4148	4822 130 30621
D103	1N4001G	4822 130 31438
D105	SLP141B LED	4822 130 31191
D106	SLP241B LED	4822 130 31192
D107	1N4001G	4822 130 31438

-SK-		
SK101	Rec/play	4822 277 21004
SK102	Monitor	4822 277 21003
SK103	Phase	4822 277 21003

-R-		
R128	Output signal control	4822 100 20139

-Miscellaneous-		
BU101	Ext. D.C. socket	4822 267 30431
BU102	Line in-Line out-remote socket	4822 267 40579
BU103		
BU104		

Carbon film 0.2 W	70°C	5%	
Carbon film 0.33 W	70°C	5%	
Metal film 0.33 W	70°C	5%	
Carbon film 0.5 W	70°C	5%	
Carbon film 0.67 W	70°C	5%	
Carbon film 1.15 W	70°C	5%	

Ⓒ Chip component

Ceramic plate Tuning ⩽ 120 pF NP.0 Others	2% —20/+80%	
Polyester flat foil	10%	
Metalized polyester flat film	10%	
Polyester flat foil small size (Mylar)	10%	
Polysterene film/foil	1%	
Tubular ceramic		
Miniature single		
Subminiature tantalum	± 20%	

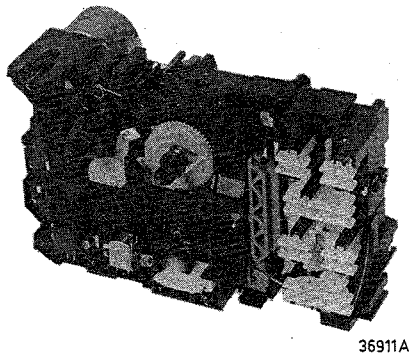
*a	= 2,5 V
b	= 4 V
c	= 6,3 V
d	= 10 V
e	= 16 V
f	= 25 V
g	= 40 V
h	= 63 V
j	= 100 V
l	= 125 V
m	= 150 V
n	= 160 V
q	= 200 V
r	= 250 V
s	= 300 V
t	= 350 V
u	= 400 V
v	= 500 V
w	= 630 V
x	= 1000 V
A	= 1,6 V
B	= 6 V
C	= 12 V
D	= 15 V
E	= 20 V
F	= 35 V
G	= 50 V
H	= 75 V
I	= 80 V

27 037A/C

2843

Recorders tape-deck RU-3

Service
Service
Service



36911A

Service Manual

(GB)

The RU-3 tape-deck is identical with the RU-1 tape-deck, however with the following exception:
The plate with item number 52 has been cancelled.
See Fig. 1; pos. 85 added.

The codenumbers for K1, K2 of the RU-1 have also been cancelled.

(NL)

Het RU-3 loopwerk is gelijk aan het RU-1 loopwerk met de volgende uitzonderingen:
Het plaatje pos. 52 is vervallen
Zie Fig. 1; pos. 85 is toegevoegd.

De kodenummers voor K1, K2 uit de RU-1 zijn ook vervallen.

(F)

La mécanique RU-3 est pareille à la RU-1 à l'exception de ce qui suit:
La plaquette rep. 52 est supprimée.
Voir en Fig. 1; le rep. 85 a été ajouté.

Les codes K1, K2 du RU-1 sont aussi supprimés.

(D)

Das RU-3-Laufwerk ist dem RU-1 Laufwerk gleich allerdings mit folgenden Ausnahmen:
Platte Pos. 52 ist entfallen.
Siehe Fig. 1; Pos. 85 hinzugefügt.

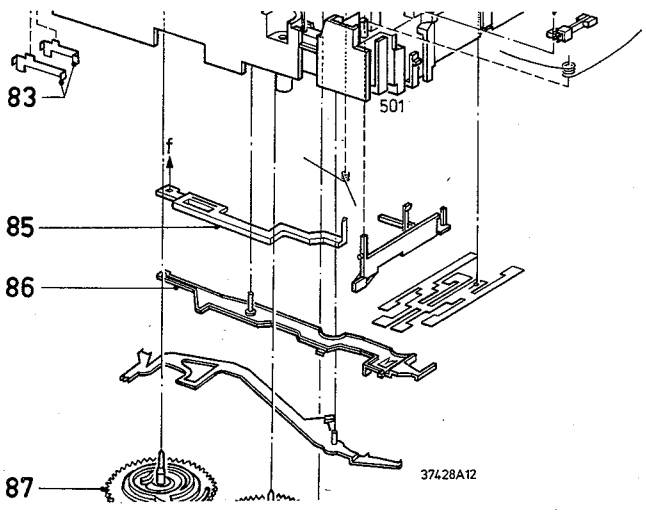
Die Codenummer für K1, K2 vom RU-1-Laufwerk sind ebenfalls entfallen.

(I)

Il meccanismo RU-3 è uguale al RU-1, eccetto:
La piastrina pos. 52 è stata soppressa.
Vedi in Fig. 1; la pos. 85 è stata aggiunta.

I codici K1, K2 del RU-1 sono anche stati soppressi.

85 = 4822 403 30431
K1 = 4822 249 10213
K2 = 4822 249 40123



Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification

4822 725 20586

Printed in The Netherlands

©Copyright reserved

Published by
Service Consumer Electronics

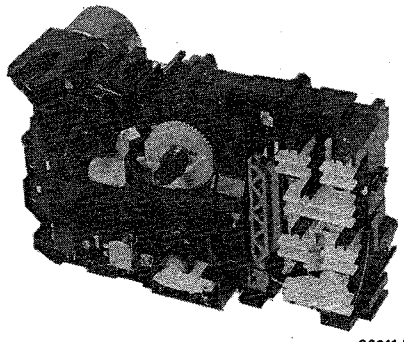
284

CS 101 073

2843

Recorders tape-deck RU-3

Service
Service
Service



36911A

Service Manual

(GB)

The RU-3 tape-deck is identical with the RU-1 tape-deck, however with the following exception:
The plate with item number 52 has been cancelled.
See Fig. 1; pos. 85 added.

The codenumbers for K1, K2 of the RU-1 have also been cancelled.

(NL)

Het RU-3 loopwerk is gelijk aan het RU-1 loopwerk met de volgende uitzonderingen:
Het plaatje pos. 52 is vervallen
Zie Fig. 1; pos. 85 is toegevoegd.

De kodenummers voor K1, K2 uit de RU-1 zijn ook vervallen.

(F)

La mécanique RU-3 est pareille à la RU-1 à l'exception de ce qui suit:
La plaquette rep. 52 est supprimée.
Voir en Fig. 1; le rep. 85 a été ajouté.

Les codes K1, K2 du RU-1 sont aussi supprimés.

(D)

Das RU-3-Laufwerk ist dem RU-1 Laufwerk gleich allerdings mit folgenden Ausnahmen:
Platte Pos. 52 ist entfallen.
Siehe Fig. 1; Pos. 85 hinzugefügt.

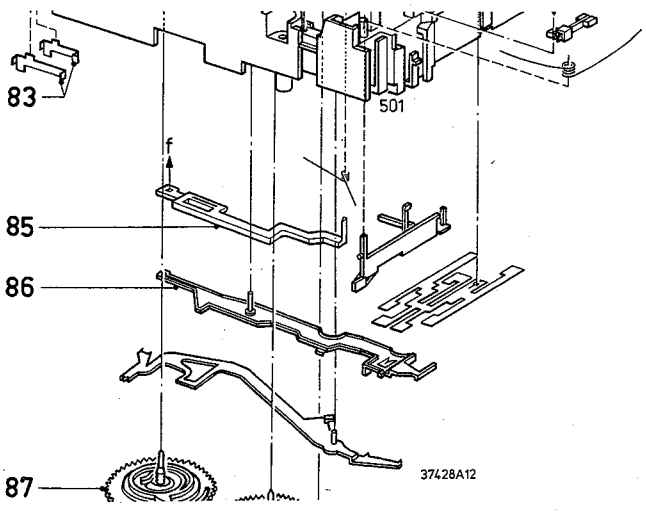
Die Codenummer für K1, K2 vom RU-1-Laufwerk sind ebenfalls entfallen.

(I)

Il meccanismo RU-3 è uguale al RU-1, eccetto:
La piastrina pos. 52 è stata soppressa.
Vedi in Fig. 1; la pos. 85 è stata aggiunta.

I codici K1, K2 del RU-1 sono anche stati soppressi.

85 = 4822 403 30431
K1 = 4822 249 10213
K2 = 4822 249 40123



DocumentationTechnique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification
4822 725 20586
Printed in The Netherlands

©Copyright reserved

Published by
Service Consumer Electronics

284

CS 101 073